

A NEW SPECIES OF STENELMIS FROM NEVADA  
(Coleoptera, Elmidae)

BY HARRY P. CHANDLER

*California Division of Fish and Game, Red Bluff, Calif.*

*Stenelmis calida* Chandler, new species

*Type*, male. *Size*. Length 3.3 mm; width 1.23 mm.

*Form and color*. Body elongate, sides parallel. Elytra dark brown; rest of body covered with dense matted greenish gray pile except tip of last abdominal segment, tarsi, mouth parts, antennae, and part of head.

*Head*. Vertex with a dark median band, lateral gray bands slightly narrower; palpi and antennae yellow testaceous. Antennae shorter ( $\frac{7}{8}$ ) than pronotum.

*Pronotum*. (Fig. 1, a). Length 1.1 mm.; width 1.0 mm., width at anterior margin .8 mm., at posterior margin .9 mm., widest posterior third, lateral margin concave in outline in front of widest portion and slightly so behind. Median sulcus moderately deep. A deep pit on either side just in front of scutellum. Lateral tubercles conspicuous, located at the anterior  $\frac{4}{9}$  and the posterior  $\frac{2}{7}$ , the posterior pair more widely separated with a depression between them and the sulcus.

*Elytra*. Length 2.4 mm., width 1.23 mm. Entirely immaculate. First stria complete from base to apex. Carina between second and third striae strongly and widely elevated at base. Carina between fifth and sixth striae with inner side declivous and outer side beveled, extending from base to posterior  $\frac{1}{7}$ . Distance between outer carinae narrowed from base to anterior third then parallel almost to posterior end. Elytral punctures deeply impressed.

*Venter*. Apical emargination of last abdominal segment about equal to width of base of last tarsal segment.

*Legs*. Color rufous, all except tarsi covered with grey pile. Tibia length: hind 1.24 mm., middle 1.15 mm., front 1.02 mm. Last tarsal segment of the front and middle legs about  $\frac{1}{15}$  longer than the basal four segments combined. Last segment of metatarsus nearly equal to basal four segments. Last tarsal segment is more strongly enlarged beyond the middle, claws long and comparatively slender. Middle tibiae with a swelling on inner margin near middle as is characteristic of the males of this genus.

*Allotype*, female. Length 3.2 mm.; width 1.2 mm. Color and form similar to type except for sexual difference of the middle tibia which is without the enlargement.

*Disposition of types.* *Holotype*, *allotype* and *paratypes* collected by Ira La Rivers on December 31, 1946, will be placed in the collection of the California Academy of Sciences; paratypes in the collections of Mr. La Rivers, Dr. Milton Sanderson, Museum of Comparative Zoology at Harvard, U. S. National Museum, Washington, D. C., British Museum, Dr. Paul N. Musgrave and the collection of the author.

*Comparisons.* This species ranges in length from 3.0 to 3.4. The metathorasic wings of both sexes are reduced and non functional. They reach only to a point even with the middle of the third abdominal segment, apical third almost completely lacking so that the wing is truncate at apex. This species does not distinctly run to either the *humerosa-sinuata* group or the *crenata* group as delimited by Sanderson<sup>1</sup> in his key. The last tarsal segment of the front and middle legs are longer than the other tarsal segments combined, but those of the hind legs are equal. The last tarsal segment is noticeably more strongly enlarged beyond the middle, but the claws are comparatively slender. In the *humerosa-sinuata* group it will run to *S. fuscata* Blatchley in Sanderson's key. It may easily be separated from this by the prominent elevation of the interval between the base of the second and third stria of the elytra. In the *crenata* group it is separated at once by the absence of maculations on the elytra. The resemblance to the more immaculate specimens of *S. crenata* is quite close; however, there are many small differences such as the stronger enlargement of the distal half of the last tarsal segment and the reduction of the wings in *S. calida*.

*Larva.* The larva conforms in general with the description by West<sup>2</sup> of an unknown species of *Stenelmis* which he designates as Type 4. The more obvious differences are described as follows: The prothorax is nearly three times as long as the succeeding segments, the widest point being at the posterior third. Posterior abdominal segment subconical, (Fig. 1, b) slightly more narrowed at apex. Apex truncate with a short spine at marginal angles. The ventral operculum 1/3 as long as the segment. Antennae two segmented without trace of a third segment in the single specimen

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<sup>1</sup>Sanderson, Milton W., 1938. A monographic revision of the North American Species of *Stenelmis* (Dryopidae: Coleoptera) Bull. Uni. Kan., Vol. XXXIX, 635-717.

<sup>2</sup>West, Luther S., 1929. A preliminary study of larval structure in the Dryopidae, Ann. Ent. Soc. Amer., Vol. XXII, p. 697.

examined. The second segment is about half as wide and one third longer than the first. The ocelli are located some distance

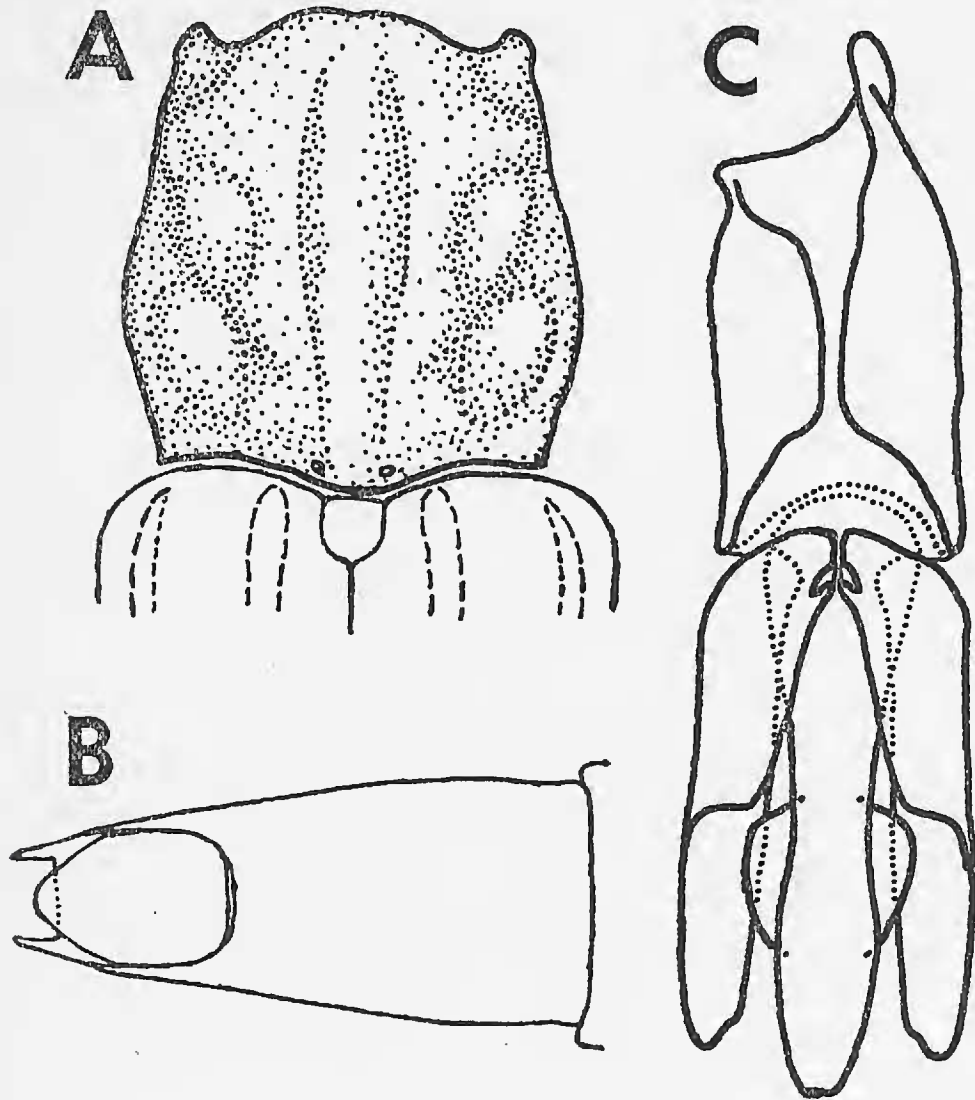


Fig. 1. *Stenelmis calida* Chandler. A. Pronotum. B. Ventral view of last abdominal segment, larva. C. Male genitalia.

below the cuticle, and the cuticle tubercles and spines are uniformly distributed over this portion of the head which may indicate that semi cave life has caused the ocelli to be less functional. Labrum evenly rounded anteriorly.

*Distribution.* While checking aquatic beetles in the collection of Ira La Rivers, the author discovered under another genus three specimens of *Stenelmis* from Devil's Hole, Nye County, Nevada, elevation 2,500, collected by A. W. Vanderhorst September 11,

1941, which were obviously new records for the state. As Mr. La Rivers was desirous of recording all the species occurring in the state, the specimens were carefully studied and found to be undescribed. On December 31, 1946, Mr. La Rivers visited this location and succeeded in securing a large series of adults and one larva. It was learned in correspondence with Dr. Sanderson of the Ill. Nat. Hist. Survey that he had half of a small series (10 specimens) from the same locality collected by A. R. Miller on January 9, 1939, which had never been critically studied. The other half of the series remained in the Museum of Comparative Zoology Collection. These were obtained on loan and form part of the paratypes.

Devil's Hole is located thirty miles east of Death Valley at the base of a low range of mountains on the east side of Ash Meadows in Nye County, Nevada. According to Mr. La Rivers it is a warm spring pool located at the bottom of a crevice or crater, possibly a part of a water formed cave. The crevice at the water surface is about 10 feet wide by 65 feet long. The surface of the water is 50 to 60 feet below the lowest part of the rim. There is no apparent inlet or outlet. Water marks on the walls indicate that water has stood for some time at depths of 10 to 15 feet above the present surface level. The temperature of the water never varies more than one degree from 92° Fahrenheit winter or summer. Mr. La Rivers could not find *Stenelmis* in any of the nearby streams or warm springs. Also confined to this warm spring is a small (about 20 mm.) minnow, *Cyprinodon diabolus* Wales. Both of these species may have been isolated in this warm spring since the subsidence of a prehistoric lake which covered this site probably in the early Pleistocene.<sup>3</sup> With the exception of *S. nubifer* Fall which occurs along the Pacific states but is not closely related to the other *Stenelmis*, this is the farthest west that this genus has been recorded. Another extension of this genus to the west was the collecting of *S. bicarinata* Lec. at Loving, New Mexico, August 5, 1945, by Mr. J. W. MacSwain.

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<sup>3</sup>Miller, Robert R., 1948. The Cyprinodont fishes of the Death Valley system of Eastern California and Southwestern Nevada. Misc. Pub. Mus. of Zoo., Uni. of Mich., No. 68, April 20, 1948, pp. 85-86.